IN THE CLAIMS

Please cancel claims 6 and 16, and amend claims 1, 8, 11, and 15 as follows:

1. (Currently Amended) A method of inverse multiplexing unmanaged traffic flows over a multi-star switch network, comprising:

classifying incoming traffic to a flow;

assigning a packet sequence number to a packet from a unmanaged traffic flow going to a destination node, placing the packet into an unmanaged traffic queue, and maintaining an expected sequence number (ESN);

processing and transmitting all managed packets destined for a switch, then processing and transmitting an unmanaged packet from the unmanaged traffic queue;

placing an arriving unmanaged packet without the ESN from a switch fabric output into a destination source-node-specific-unmanaged-traffic buffer (SNSUT) to form a placed unmanaged packet without the ESN; and

moving an arriving unmanaged packet having the ESN, an arriving managed packet received from the switch fabric output, or a placed unmanaged packet having the ESN in the SNSUT, to an intended output queue, wherein the placing and moving are carried out by a source-node-specific-sequence-checking-process (SNSSCP).

2. (Original) The method according to claim 1, wherein the flow defines a source node, a destination node, a switch, and whether the flow is managed or unmanaged.

3. (Original) The method according to claim 1, wherein a source node classifier, using a traffic engineering algorithm, classifies the incoming traffic to the flow, assigns the packet sequence number to the packet from the unmanaged traffic flow going to the destination node, and places the packet into the unmanaged traffic queue.

4. (Original) The method according to claim 1, wherein the processing and transmitting of packets destined for the switch is carried out by a switch input scheduler process.

5. (Original) The method according to claim 4, wherein the switch input scheduler process includes a randomization process.

6. (Canceled)

7. (Original) The method according to claim 1, wherein one destination source-node-specific-unmanaged-traffic buffer (SNSUT) is assigned per source node.

8. (Currently Amended) The method according to claim [[6]] 1, wherein the arriving unmanaged packet having the ESN is in sequence, the SNSSCP strips the packet sequence number from the arriving unmanaged packet having the ESN to form a stripped unmanaged packet, sends the stripped unmanaged packet to the intended output queue, updates the ESN for a source node, the SNSSCP attempts to empty the SNSUT by scanning the SNSUT for the placed unmanaged packet having the ESN, if the placed unmanaged packet having the ESN is found, the placed unmanaged packet having the ESN is removed from the SNSUT, the packet sequence number is stripped from the placed unmanaged packet having the ESN to form the stripped unmanaged packet, the stripped unmanaged packet is sent to the intended output queue, and the ESN for the source node is updated.

9. (Original) The method according to claim 8, wherein the arriving unmanaged packet without the ESN is out of sequence, if there are less than X placed unmanaged packets without the ESN in the SNSUT, the SNSSCP places the arriving unmanaged packet without the ESN in the SNSUT to form a placed unmanaged packet without the ESN and checks the switch fabric output for the arriving unmanaged packet having the ESN, X being equal to the number of switches.

10. (Original) The method according to claim 9, wherein the arriving unmanaged packet without the ESN is out of sequence, if there are X or greater placed unmanaged packets without the ESN in the SNSUT, the SNSSCP places the arriving unmanaged packet without the ESN in the SNSUT to form a placed unmanaged packet without the ESN, updates the ESN for the source node, and attempts to empty the SNSUT by scanning the SNSUT for the placed unmanaged packet with the ESN.

11. (Currently Amended) A program code storage device, comprising:

a machine-readable storage medium; and

machine-readable program code, stored on the machine-readable storage medium, having instruction to

classify incoming traffic to a flow,

assign a packet sequence number to a packet from an unmanaged traffic flow going to a destination node, place the packet into an unmanaged traffic queue, and maintain an expected sequence number (ESN),

process and transmit all managed packets destined for a switch first, then process and transmit an unmanaged packet from the unmanaged traffic queue,

place an arriving unmanaged packet without the ESN from a switch fabric output into a destination source-node-specific-unmanaged-traffic buffer (SNSUT), to form a placed unmanaged packet without the ESN; and

move an arriving unmanaged packet having the ESN or an arriving managed packet, received from the switch fabric output, or [[the]] a placed unmanaged packet having the ESN in the SNSUT, to an intended output queue, wherein the placing and moving are carried out by a source-node-specific-sequence-checking-process (SNSSCP).

12. (Original) The program code storage device according to claim 11, wherein the flow defines a source node, a destination node, a switch, and whether the flow is managed or unmanaged.

13. (Original) The program code storage device according to claim 11, wherein a source node classifier, using a traffic engineering algorithm, classifies incoming traffic to the flow, assigns the packet sequence number to the packet from the unmanaged traffic flow going to the destination node, and places the packet into the unmanaged traffic queue.

14. (Original) The program code storage device according to claim 11, wherein the processing and transmitting of packets destined for the switch is carried out by a switch input scheduler process.

15. (Currently Amended) The program code storage device according to claim 11, wherein [[the]] a switch input scheduler process includes a randomization process.

16. (Canceled)

17. (Original) The program code storage device according to claim 11, wherein one destination source-node-specific-unmanaged-traffic buffer (SNSUT) is assigned per source node.

18. (Original) The program code storage device according to claim 11, wherein the arriving unmanaged packet having the ESN is in sequence, the SNSSCP strips the packet sequence number from the arriving unmanaged packet having the ESN to form a stripped unmanaged packet, sends the stripped unmanaged packet to the intended output queue, updates the ESN for a source node, the SNSSCP attempts to empty the SNSUT by scanning the SNSUT for the placed unmanaged packet having the ESN, if the placed unmanaged packet having the ESN is found, the placed unmanaged packet having the ESN is removed from the SNSUT, the packet sequence number is stripped from the placed unmanaged packet having the ESN to form the stripped

unmanaged packet, the stripped unmanaged packet is sent to the intended output queue, and the ESN for the source node is updated.

19. (Original) The program code storage device according to claim 18, wherein the arriving unmanaged packet without the ESN is out of sequence, if there are less than X placed unmanaged packets without the ESN in the SNSUT buffer, the SNSSCP places the arriving unmanaged packet without the ESN in the SNSUT to form a placed unmanaged packet without the ESN and checks the switch fabric output for the arriving unmanaged packet having the ESN, X being equal to the number of switches.

20. (Original) The program code storage device according to claim 19, wherein the arriving unmanaged packet without the ESN is out of sequence, if there are X or greater placed unmanaged packets without the ESN in the SNSUT, the SNSSCP places the arriving unmanaged packet without the ESN in the SNSUT to form a placed unmanaged packet with out the ESN, updates the ESN for the source node, and attempts to empty the SNSUT by scanning the SNSUT for the placed unmanaged packet with the ESN.

21. (Original) The program code storage device according to claim 14, wherein the switch input scheduler process includes a randomization process.

22. (Original) A multi-star switch network, comprising:

a multi-star switch fabric; and

an input device, connected to the muti-star switch fabric, having a plurality of Switch-Specific Managed-Traffic Queues (SSMT), an unmanaged traffic queue, and a switch input scheduler, wherein the input device classifies incoming traffic to a flow to form classified flows, assigns a packet sequence number, maintains an expected sequence number (ESN), places packets from the classified flows into the SSMT and the unmanaged traffic queue, selects such

that the switch input scheduler for a switch selects all packets available from the SSMT, then selects a single packet from the unmanaged traffic queue to form selected packets, transmits the selected packets from the classified flows from the input device through the multi-star switch fabric to an output device, and the output device, connected to the multi-star switch fabric, containing a switch output process that sorts arriving packets received from a switch fabric output, and sends the arriving packets to an intended output queue.

23. (Original) The multi-star switch network according to claim 22, wherein the flow defines a source node, a destination node, the switch, and whether the flow is managed or unmanaged.

24. (Original) The multi-star switch network according to claim 22, wherein the input device classifies, using a traffic engineering algorithm, the incoming traffic based on the flow, and places the packets from the classified flows into the SSMT and the unmanaged traffic queue.

25. (Original) The multi-star switch network according to claim 23, wherein the switch input scheduler selects and moves selected packets from the SSMT and the unmanaged traffic queue to the switch.

26. (Original) The multi-star switch network according to claim 22, wherein the switch input scheduler selects by using a randomization function.

27. (Original) The multi-star switch network according to claim 22, wherein the input device has a switch input scheduler process for the switch.

28. (Original) The multi-star switch network according to claim 22, wherein the arriving packets received from the switch fabric output includes at least one of an arriving unmanaged packet having the ESN, an arriving unmanaged packet without the ESN, and an arriving managed packet.

29. (Original) The multi-star switch network according to claim 28, wherein the switch output process places the arriving packets from the switch fabric output without the ESN into a destination source-node-specific-unmanaged-traffic buffer (SNSUT), and moves the arriving packets with the ESN received from the switch fabric output and a placed packet in the SNSUT with the ESN to the intended output queue.

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